IN THE CLAIMS:

1.(Withdrawn) A medical control apparatus, connectable to medical devices used for medical purposes, comprising:

a processing unit for outputting control signals for controlling said medical devices based on a control program recorded in a first recording medium;

a communication interface for transmitting control signals output from said processing unit to said medical devices, and for receiving the action status from said medical devices and outputting to said processing unit; and

a tutorial program recorded in a second recording medium for causing said processing unit to perform processing for supporting the handling of trouble relating to actions of said medical devices.

2.(Withdrawn) The medical control apparatus according to Claim 1, wherein said tutorial program has functions for displaying trouble items in the event that an indication button corresponding to maintenance is operated.

3.(Withdrawn) The medical control apparatus according to Claim 2, having functions for performing estimation processing for recovering from a specified trouble item, in the event that a displayed trouble item is specified.

4.(Withdrawn) The medical control apparatus according to Claim 2, having functions for displaying countermeasures information for recovering from the specified trouble item, in the event that a displayed trouble item is specified.

5.(Withdrawn) The medical control apparatus according to Claim 1, further comprising a recording medium for recording status information of each of the medical devices connected to said medical control apparatus.

6.(Withdrawn) The medical control apparatus according to Claim 1, further comprising a control panel for controlling the setting status and so forth of each of the medical devices connected to said medical control apparatus.

7.(Withdrawn) The medical control apparatus according to Claim 1, further comprising a display panel for displaying the setting status and so forth of each of the medical devices connected to said medical control apparatus.

8.(Withdrawn) The medical control apparatus according to Claim 1, further comprising a transmission circuit for transmitting information to external supporting devices via a communication line.

9.(Withdrawn) The medical control apparatus according to Claim 1, further comprising a transmission circuit for transmitting different support information to each of a plurality of external supporting devices via a communication line.

10.(Withdrawn) The medical control apparatus according to Claim 1, further displaying a transmission button for transmitting information necessary for support to external supporting devices via a communication line.

11.(Withdrawn) The medical control apparatus according to Claim 7, further displaying, on said display panel, a transmission button for instructing transmission of information necessary for support to external supporting devices via a communication line.

12.(Withdrawn) The medical control apparatus according to Claim 2, further performing screen display of a menu format wherein a menu indicating the overview of said trouble items and sub-menus indicating more detailed items contained in said menu are displayed.

13.(Withdrawn) The medical control apparatus according to Claim 12, further comprising a display device for displaying information for recovering from the trouble item displayed.

14.(Withdrawn) The medical control apparatus according to Claim 13, wherein a first screen for displaying said trouble items and a second screen for displaying information for said recovering are display screens having a hierarchical structure.

15.(Withdrawn) The medical control apparatus according to Claim 14, wherein, in said second screen, operation buttons for instructing display settings of an operating screen for controlling medical devices are displayed.

16.(Withdrawn) The medical control apparatus according to Claim 4, wherein said countermeasures information comprises either:

information of an operation screen displaying operation instruction buttons wherein there is the possibility of recovery from the trouble item by operating said instruction buttons; or

information of an advice screen displaying advice wherein there is the possibility of recovery from the trouble item by performing work following the contents of said advice.

17.(Withdrawn) The medical control apparatus according to Claim 16, wherein said operating screen and advice screen can be displayed either separately or combined.

18.(Withdrawn) The medical control apparatus according to Claim 16, wherein in the event of displaying said operating screen and advice screen combined, reduced display can be made.

19.(Withdrawn)The medical control apparatus according to Claim 18, wherein said reduced display includes icon and thumbnail displays.

20.(Withdrawn) The medical control apparatus according to Claim 16, wherein said advice screen can be displayed in an enlarged manner.

21.(Withdrawn) The medical control apparatus according to Claim 16, wherein in the event of displaying said operation screen, a display is made to disable an operation by operation buttons not contributing to recovery from the trouble item.

22.(Withdrawn) The medical control apparatus according to Claim 16, wherein, in the event that recovery from said trouble item is not effected by recovery operations and the like following the display of said countermeasures information, other countermeasures information such as recovery operations or recovery operation methods or the like is displayed.

23.(Withdrawn) The medical control apparatus according to Claim 10, wherein, in the event that said transmission button is operated, information contributing to recovery from said trouble is transmitted to a plurality of external devices almost simultaneously.

24.(Withdrawn) The medical control apparatus according to Claim 4, wherein, in the event of displaying countermeasures information for recovering from a specified trouble item, countermeasures information estimated to have high probability of effecting recovery from the specified trouble item is displayed with priority.

25.(Withdrawn) The medical control apparatus according to Claim 4, wherein, in the event that recovery is not effected by operations or work following said countermeasures information, and separate countermeasures information is displayed taking the above results into consideration.

26.(Withdrawn) The medical control apparatus according to Claim 4, wherein different countermeasures information display modes, displaying different contents, can be selected by the user.

27.(Withdrawn) The medical control apparatus according to Claim 26, wherein display contents for said modes take into consideration the users capabilities of handling trouble items.

28.(Withdrawn) The medical control apparatus according to Claim 26, wherein the number of times of the user specifying trouble items is detected, and the countermeasures information display, with different contents from one mode to another, is automatically determined according to the number of times.

29.(Withdrawn) The medical control apparatus according to Claim 1, further comprising an error information storing unit for storing error information of errors occurring in said medical devices.

30.(Withdrawn) The medical control apparatus according to Claim 1, further having functions for displaying error information of errors occurring in said medical devices.

31.(Withdrawn) The medical control apparatus according to Claim 30, wherein processing for estimating trouble items relating to said error information is performed.

32.(Withdrawn) The medical control apparatus according to Claim 31, wherein, in the event that there are a plurality of trouble items relating to said error information, trouble items are displayed according to priority.

33.(Withdrawn) The medical control apparatus according to Claim 32, wherein said priority is determined from information of errors occurring in the past.

34.(Withdrawn) The medical control apparatus according to Claim 30, further displaying error information of errors occurring at said medical devices as history information.

35.(Currently amended) A maintenance method for performing maintenance with a medical control apparatus, connectable to medical devices used for medical purposes such that said medical control apparatus controls said medical devices, said method comprising:

a specifying step for specifying a trouble item;

a processing step for performing estimation processing for at least one of recovery operations and an operation related to recovery operations ~~or an operation method or the like~~ for recovering from trouble of an item specified in said specifying step; and

a display step for displaying information of at least one of said recovery operations and said operation related to recovery operations performed in accordance with ~~or a recovery operation method~~ a selection by a user ~~or the like~~.

36.(Currently amended) The maintenance method for a medical control apparatus according to Claim 35, wherein a screen display is provided ~~performed~~ in a menu format screen displaying said trouble items in general major items and more specific sub-items contained in said major items.

37.(Currently amended) The maintenance method for a medical control apparatus according to Claim 35, wherein a first screen for displaying said trouble items, and a second screen for displaying information of at least one of said recovery operations and said operation related to recovery operations ~~or an operation method or the like~~, are display screens having a hierarchical structure.

38.(Currently amended) The maintenance method for a medical control apparatus according to Claim 37 ~~35~~, wherein, in said second screen, an operation screen display can be set wherein operating operation buttons enables controlling of the medical devices ~~device~~.

39.(Currently amended) The maintenance method for a medical control apparatus according to Claim 35, wherein at least one of said recovery operations and said operation related to recovery operations ~~said information of recovery operations or operation method or the like~~, displayed in said display step, comprises ~~either~~ at least one of information of an operation screen displaying operation buttons wherein there is the possibility of recovery from the trouble item by operating said operation buttons~~;~~ and ~~or~~ information of an advice screen displaying advice wherein there is the possibility of recovery from the trouble item by performing work following the contents of said advice.

40.(Currently amended) A recording medium storing a program for a maintenance method for performing maintenance with a medical control apparatus, connectable to medical devices used for medical purposes such that said medical control apparatus controls said medical devices, said program comprising:

code for a specifying step for specifying a trouble item;

code for a processing step for performing estimation processing for at least one of recovery operations and an operation related to recovery operations ~~or an operation method or the like~~ for recovering from trouble of an item specified in said specifying step; and

code for a display step for displaying information of at least one of said recovery operations and said operation related to recovery operations ~~or recovery operation method or the like~~.

41.(Withdrawn) A medical control apparatus, connectable to medical devices used for medical purposes, comprising:

a processing unit for outputting control information for controlling said medical devices to said medical devices based on a control program recorded in a recording medium via a communication interface, and receiving information of the state of actions from said medical devices via an interface;

a maintenance button for instructing display of information relating to maintenance;

a first trouble item display processing program which causes said processing unit to execute processing for displaying on a predetermined display device a plurality of trouble items relating to the set-up of said medical devices, in response to operating instructions of said maintenance button;

a first trouble item selection operating unit for a user to operate for selecting from a plurality of trouble items displayed on said display device by execution of said trouble item display processing program; and

a first trouble countermeasures information display processing program for causing said processing unit to execute display processing for displaying in said display device countermeasures information dealing with a trouble item selected with said trouble item selection operating unit.

42.(Withdrawn) The medical control apparatus according to Claim 41, further comprising a transmission circuit for externally transmitting information relating to maintenance via a communication line.

43.(Withdrawn) The medical control apparatus according to Claim 42, wherein said transmission circuit functions by operation of a transmission button for instructing transmission.

44.(Withdrawn) The medical control apparatus according to Claim 41, wherein said display device which displays said plurality of trouble items also display said countermeasures information.

45.(Withdrawn) The medical control apparatus according to Claim 41, wherein said display of said trouble items and said display of countermeasures information is performed in a display format with a hierarchical structure.

46.(Withdrawn) The medical control apparatus according to Claim 41, wherein said display device which displays said plurality of trouble items is provided on a control panel for performing control operations for controlling said medical devices.

47.(Withdrawn) The medical control apparatus according to Claim 41, wherein, in the event of displaying said countermeasures information, countermeasures information regarding which has been estimated to have a high probability of recovery from the selected trouble item is displayed with priority.

48.(Currently amended) A maintenance method for a medical control apparatus which outputs control information for controlling medical devices to said medical devices used for medical purposes via a communication interface, and receives information of the state of actions from said medical devices via an interface, said method comprising:

a maintenance instructing step for instructing maintenance;

a trouble item display step for displaying on a predetermined display device a plurality of trouble items relating to ~~the~~ set-up of said medical device, according to said maintenance instructing step;

a specifying step for specifying at least one trouble item of said plurality of trouble items displayed in said trouble item display step; and

a display step for displaying countermeasures information for recovering from the at least one trouble item specified in said specifying step.

49.(Original) The maintenance method for a medical control apparatus according to Claim 48, further comprising a transmission step for transmitting information relating to maintenance to external support devices via a communication line, in the event that a transmission button is operated.

50.(Original) The maintenance method for a medical control apparatus according to Claim 48, wherein said trouble item display step performs screen display of a menu format for displaying a menu indicating an overview of trouble items, and sub-menus indicating more detailed items contained in said menu.

51.(Withdrawn) A medical control apparatus, connectable to medical devices used for medical purposes, comprising:

a processing unit for outputting control information for controlling said medical devices to said medical devices based on a control program recorded in a recording medium via a communication interface, and receiving information of the state of actions from said medical devices via a communication interface;

a status button for instructing transmission of status information;

a first file creation processing program for collecting first status information necessary for a first supporting device, and causing said processing unit to execute processing for creating a first transmission file, according to operation instructions of said status button;

a second file creation processing program for collecting second status information necessary for a second supporting device, and causing said processing unit to execute processing for creating a second transmission file, according to operation instructions of said status button; and

a status information transmission circuit for transmitting said first and said second transmission files created by executing said first and said second file creating processing programs, to each of said first and said second supporting devices.

52.(Withdrawn) A medical control apparatus, connectable to medical devices used for medical purposes, and for controlling said medical devices, comprising:

a processing unit for outputting control information for controlling said medical devices to said medical devices based on a control program recorded in a first recording medium via a communication interface, and receiving information of the state of actions from said medical devices via a communication interface;

a status button for instructing transmission of status information;

a first file creation processing program for collecting first status information necessary for a first supporting device, and causing said processing unit to execute processing for creating a first transmission file, according to operation instructions of said status button;

a second file creation processing program for causing said first supporting device to perform processing for creating a second transmission file including second status information necessary for a second supporting device, from said first transmission file, according to operation instructions of said status button; and

a status information transmission circuit for transmitting said first transmission file created by executing said first file creation processing program to said first supporting device, wherein said first supporting device transmits said second transmission file created from said first transmission file to said second supporting device.

53.(Withdrawn) The medical control device according to Claim 52, wherein said second transmission file is created from a part of the information of said first transmission file.

54.(Withdrawn) A medical device control method for a medical device control system comprising a medical controller for monitoring multiple medical devices, comprising:

an information sending instruction step for instructing sending of information; and

an information sending step for said controller to send different maintenance information to a first supporting device and a second supporting device via a communication line approximately simultaneously, by said information sending instruction.

55.(Withdrawn) A medical control apparatus, connectable to medical devices used for medical purposes, comprising:

a processing unit for outputting control information for controlling said medical devices to said medical devices based on a control program recorded in a predetermined recording medium via a communication interface, and receiving information of the state of actions from said medical devices via a communication interface;

an occurrence probability storing circuit for storing information of occurrence probability for each cause of predetermined trouble of said medical devices over the total usage time of said medical control apparatus;

a countermeasures information storing circuit for recording countermeasures correlated with each cause of predetermined trouble of said medical devices over the total usage time of said medical control apparatus;

a usage time calculating circuit for calculating the total usage time of said medical control apparatus;

an occurrence probability read-out circuit for reading out occurrence probability information for each cause stored in said occurrence probability storing circuit;

a countermeasures information read-out circuit for reading out countermeasures information stored in said countermeasures information storing circuit, based on said occurrence probability information read out by said occurrence probability read-out circuit; and

a countermeasures information display circuit for displaying countermeasures information, read out by said countermeasures information read-out circuit, with priority given to causes with high occurrence probability.

56.(Withdrawn) A medical control apparatus, connectable to medical devices used for medical purposes, comprising:

a processing unit for outputting control information for controlling said medical devices to said medical devices based on a control program recorded in a predetermined recording medium via a communication interface, and receiving information of the state of actions from said medical devices via a communication interface;

a display instruction button for instruction display of trouble items on a display panel;

a trouble item specifying button for specifying said trouble items displayed on said display panel;

an occurrence probability storing circuit for storing information relating to the occurrence probability of causes which cause trouble items;

a computing circuit for making reference to information read out from said occurrence probability storing circuit with regard to said trouble item that has been specified, and performing computation determining and sequencing effective countermeasures information; and

a countermeasures information display processing circuit for sequencing countermeasures information computed by said computing circuit, and performing processing for displaying with higher priority the countermeasures information which has higher priority.

57.(Withdrawn) The medical control apparatus according to Claim 56, wherein said occurrence probability storing circuit stores information of the accumulated usage time of said medical devices and said medical control apparatus.

58.(Withdrawn) The medical control apparatus according to Claim 56, further comprising an input device for inputting additional information for defining the conditions for causes causing said trouble items.

59.(Withdrawn) The medical control apparatus according to Claim 58, wherein said additional information includes information regarding the experience of users with said medical devices.

60.(Currently amended) A maintenance method for a medical control apparatus which outputs information for controlling said medical devices to medical devices used for medical purposes control via a communication interface, and receives information of the state of actions from said medical devices via a communication interface, comprising:

a maintenance instructing step for instructing maintenance;

a trouble item display step for displaying trouble items relating to said medical devices, according to said maintenance instructing step;

a specifying step for specifying at least one trouble item of said trouble items displayed in said display step;

an estimating step for estimating causes causing said trouble item, in response to said trouble item specified in said specifying step; and

a priority display step for displaying, with higher priority, countermeasures information estimated in said estimating step to have a higher probability of being the cause of said trouble item, as compared with countermeasures information with lower probabilities.

61.(Original) The maintenance method according to Claim 60, wherein, in the event of estimating the cause of said trouble item in said estimating step, reference is made to information of the occurrence probability for causing said trouble item.

62.(Currently amended) The maintenance method according to Claim 61, wherein said occurrence probability information includes information regarding an ~~the~~ accumulated usage time of said medical devices.

63.(Currently amended) A recording medium storing a program for a maintenance method for a medical control apparatus which outputs control information for controlling ~~said~~ medical devices to the medical devices used for medical purposes via a communication interface, and installs

information of the state of actions received from said medical devices via a communication interface in said medical control apparatus, wherein the program is executable to perform a method comprising:

~~code for~~ a maintenance instructing step for instructing maintenance;

~~code for~~ a trouble item display step for displaying trouble items relating to said medical devices, according to said maintenance instructing step;

~~code for~~ a specifying step for specifying at least one trouble item of said trouble items displayed in said trouble item display step;

~~code for~~ an estimating step for estimating causes causing said trouble item specified in said specifying step; and

~~code for~~ a priority display step for displaying, with higher priority, countermeasures information estimated in said estimating step to have a higher probability of being the cause of said trouble item, as compared with countermeasures information with lower probabilities.